

REMARKS

Claims 2-4, 7-10, and 13-19 are present in this application. Claims 1 and 20 are currently canceled. Claims 2, 3, 7, 15, and 16 are independent claims.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Information Disclosure Statement

Applicant reminds the Examiner that an Information Disclosure Statement was filed April 5, 2007. Applicant requests consideration of the reference cited, and that an initialed PTO/SB/08 be returned indicating such consideration.

Specification Objection

The title has been objected to. Accordingly, Applicant provides herewith a revised title. Applicant requests that the objection be withdrawn.

§ 103(a) Rejection

Claims 1, 2, and 18 have been rejected under 35 U.S.C. 103(a) as being unpatentable over JP 07-244267 (Fukumoto) in view of U.S. Patent 4,975,691 (Lee).

Claims 3, 15, and 16 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Fukumoto in view of U.S. Patent 5,717,412 (Edwards) and U.S. Patent 5,164,851 (Kanemori).

Claims 7-10, 13, 14, 19, and 20 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Fukumoto in view of Kanemori and Lee.

Claim 4 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Fukumoto in view of Edwards and Kanemori.

Claim 17 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Fukumoto in view of Lee and U.S. Patent 5,357,355 (Arai).

Claims 1 and 20 have been canceled. Claims 17 and 18 have been amended to depend from claim 2.

Embodiments of the present invention covered by claim 2, are directed to a display apparatus having a display panel whose display can be observed from either side. The display apparatus includes a display control means having a scan inverting circuit for inverting the direction of a horizontal scan on the display panel in each frame or each field. The display apparatus includes a shutter control means that controls the switching of the opening and closing of a pair of liquid crystal shutter means in response to an output from the scan inverting circuit.

In other words, as can be seen in present Fig. 2, a scan inverting circuit 15 provides a signal to the display panel in order to control the direction of horizontal scan, and provides a signal to the shutter switching circuit 14.

Independent claims 3, 7, 15, and 16 have been amended to include this feature as well.

The Office Action alleges that Lee teaches a scan inversion symmetric drive circuit for driving an electroluminescent display panel which is capable of displaying a regular image and a mirror image observed from one side of the display panel...by inverting the direction of a horizontal scan on the display panel (citing col. 3, line 67 - col. 4, line 9). Applicant disagrees.

Lee is directed to solving problems in thin-film electroluminescent panels, and in particular solving the “latent image problem.” The “latent image problem” is a problem where a pixel cell will continue to emit light even after the cell has not been activated by the application of a voltage above the threshold voltage. It is believed that a build-up charge occurs because voltage pulses applied to the pixel cell are not symmetrical with respect to time. Thus, a proposed solution to this problem is a “symmetric drive system” that involves an alternating application of opposite voltage pulses across pixel cells which has the effect of causing voltages

applied to the cells to be symmetrical in time and voltage. Lee points out that a problem with the “symmetric drive system” is that the electronic circuitry becomes more complicated because each electrode driver has to drive the display panel with two voltage polarities rather than just one. (see “Description of Related Art”). Lee discloses a solution that does not have the problems of “symmetric drive system.” (“Summary of the Invention”). Lee does not disclose a display panel with a display that can be observed from either side.

Lee’s thin-film electroluminescent panel system includes a horizontal scan sequencer 164 that provides signals to row drivers (Fig. 1) for each horizontal line of data. Subsequently, the direction of horizontal scan for displaying a horizontal line of data on the display panel does not change.

Thus, Applicant submits that Lee does not actually teach a scan inverting circuit that is capable of displaying a regular image and a mirror image ... by inverting the direction of a horizontal scan on the display panel (i.e., changing the display direction of a horizontal line of data), as alleged in the Office Action.

The Office Action also alleges that Fukumoto teaches changing the scan direction of the display unit in order to correct the appropriate direction of displayed letters or the like on the front and back surfaces of the display (referring to para. 0017). The Office Action further alleges that Fukumoto discloses that any source can be used to trigger the shutter control to switch between shutters (referring to para. 0024). Applicant disagrees.

Paragraph 0024 mentions that other types of detection equipment, or manual operation, can be used as an alternative to the ON/OFF switch built into hinge 11 of drawing 3 for changing the display to the front display section. In other words, Fukumoto only suggests use of other detection equipment for detecting that the hinge connected PDA is switched from opened to closed.

Applicant submits that there is no teaching or suggestion of controlling the opening and closing of shutters in response to a signal to invert the direction of a horizontal scan. In other

words, there is no evidence that an operation of changing the scan direction of a display unit would serve as a control signal for switches to control the shutters.

For at least these reasons, Applicant submits that the cited references fail to teach each and every claimed feature. Applicant requests that the rejections be reconsidered and withdrawn.

Conclusion

In view of the above remarks, it is believed that claims are allowable.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact **Robert Downs** Reg. No. 48,222 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

Dated: September 10, 2007

Respectfully submitted,

By Robert Downs # 48,222
Terrell C. Birch
Registration No.: 19,382
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant